

# ARCHIBALD SMITH AND CO.'S

LATEST IMPROVED

## PATENT DOUBLE-ACTION DOOR SPRINGS.

TRADE

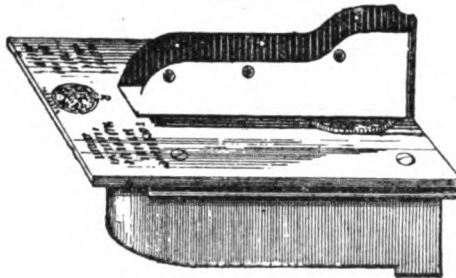
MARK.

They are fitted with all  
most recent improvements,  
Arrangement for adjusting  
of their warping or otherwise  
Patent Regulating Top Centre



ARCHIBALD SMITH AND CO.'S  
including Patent Regulating  
the Door in the event  
not setting true, and  
for tightening up the Door.

UPWARDS OF 40,000  
NOW IN USE  
IN ALL PARTS OF  
THE WORLD.



THE ONLY SPRING  
THAT  
HAS YET STOOD  
A GUARANTEE.

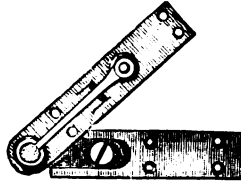
ADJUSTABLE TOP CENTRE,

REGISTERED.

REGISTERED  
SPRING STOP OR CATCH,



For Swing Doors.

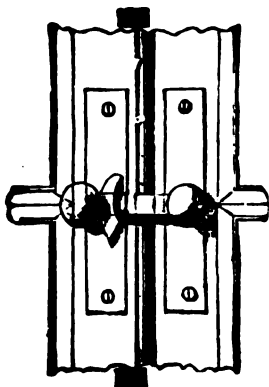


Supplied with each Door Spring.

BUFFER SPRING,

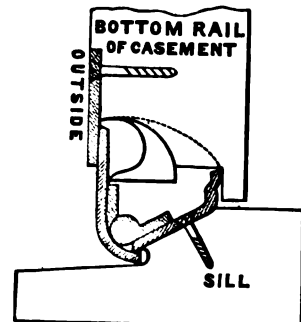


For Swing Doors.



ARCHIBALD SMITH AND CO.'S  
PATENT WEATHER-TIGHT  
CASEMENT FASTENING,  
AND  
PATENT WEATHER-TIGHT  
SILL BAR,

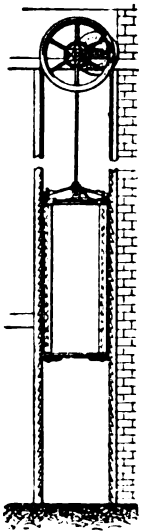
The only acknowledged Fastening and Water  
Bar for effectually excluding weather  
in FRENCH CASEMENTS.



ARCHIBALD SMITH AND CO.,

ENGINEERS AND FOUNDERS,

69, PRINCES STREET, LEICESTER SQUARE, LONDON ; AND THE COLNE VALLEY  
IRON-WORKS, HALSTEAD, ESSEX.



## ARCHIBALD SMITH AND CO.'S

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### WAREHOUSE AND HOSPITAL LIFTS.

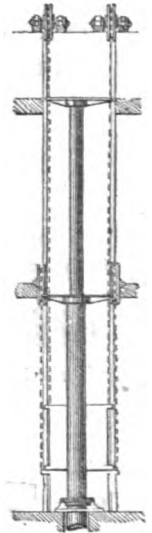
These Lifts are constructed for heavy loads, and, as in case of hospitals, where great safety and smoothness of working is required. They are constructed with great power in proportion to their loads, and are easily worked by means of the hand rope.

The Brake Apparatus is particularly strong and reliable, and every part is carefully counterbalanced. Particular attention is drawn to the Safety Apparatus, so that should the Suspension Rope break, or become deranged or damaged, the cage will be stopped immediately in its descent, and prevent accident or loss of life.

ARCHIBALD SMITH AND CO.'S

### IMPROVED HYDRAULIC LIFT.

These Lifts are worked by the pressure of water from a cistern or any other head of water, and are strongly recommended for all places where a head of water exists, on account of their perfect safety, ease of control, and steadiness of working, there being no manual power, the only thing to do being to turn on a tap and let the water into the ram.

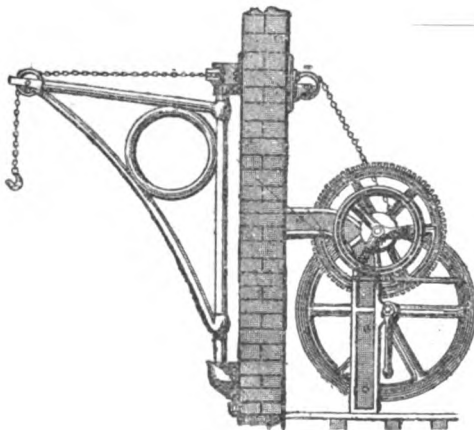


ARCHIBALD SMITH AND CO.'S

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### WAREHOUSE CRANES.

These Cranes are constructed to lift from 1 to 10 tons, and with a radius of Jib of from 3 to 9 feet; indeed, any reasonable radius of Jib may be made.



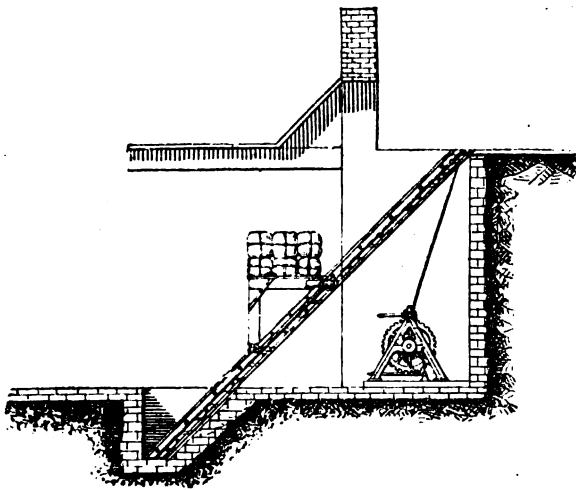
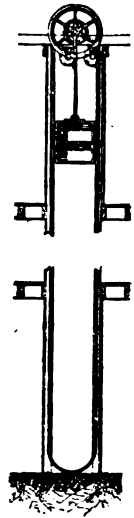
ARCHIBALD SMITH AND CO.,

ENGINEERS AND FOUNDERS,

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IRON-WORKS, HALSTEAD, ESSEX.

## ARCHIBALD SMITH AND CO.'S SMALL DINNER AND HOUSE LIFT.

These Lifts are made for raising light loads to any height—we prefer not to use them for loads above 56 lb.—and are specially adapted for eating-houses and domestic purposes, thereby saving an immense amount of labour and dirt in going up and down stairs with everything, such as coals, &c. We are now fixing a large number in and around London. Further particulars on application.



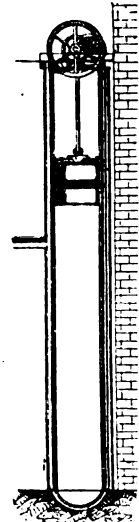
ARCHIBALD SMITH & CO.'S  
IMPROVED

## CELLAR HOIST.

These Lifts are being largely adopted in the City in all places where a load is required to be lifted from below up to and out on the pavement of the streets, and they can be strongly recommended for the ease with which they work and the small amount of room taken up, and are particularly adapted for all warehouses.

## ARCHIBALD SMITH AND CO.'S LARGE DINNER OR HOUSE LIFT.

These lifts are constructed to carry loads up to 2 cwt., and are fitted with all the most improved and modern appliances—Brake Apparatus, and, where required, Indicator Bells, so that a person working the Lift on one floor will know when it has arrived opposite any other floor that may be required to be reached. They are sometimes made with double cages.

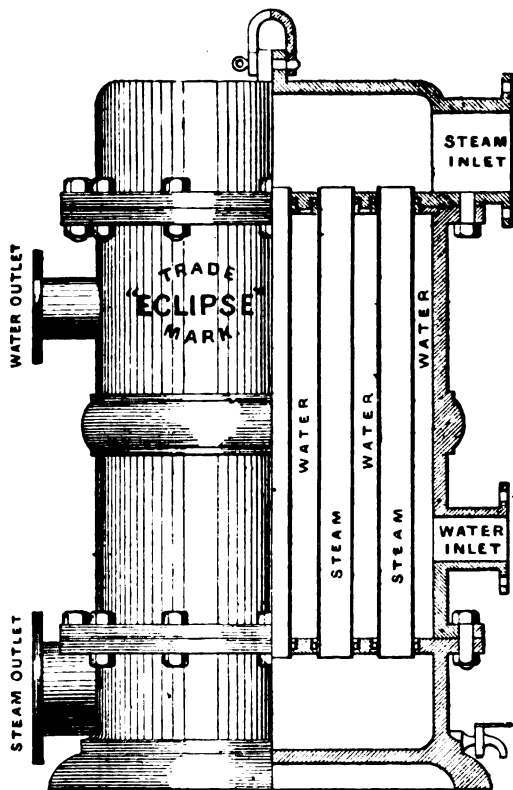


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IRON-WORKS, HALSTEAD, ESSEX.

# ARCHIBALD SMITH AND CO.'S MULTITUBULAR "ECLIPSE" WATER HEATER.

## GREAT SAVING OF FUEL.



The Feed Water for the Boiler is passed through these Heaters (which stand between the Engine and Boiler), and is heated by the waste steam from the Engine to within 6 or 8 degrees of boiling point, before entering the Boiler. The temperature of the water has therefore to be raised only a few degrees to reach the point at which steam is produced.

Thereby a great saving in fuel is effected, shown by actual test to be as much as one-third.

The first cost of these Heaters is therefore saved in a very short time.

Lime and other injurious matters are precipitated in the Heater before the water enters the Boiler.

The efficiency and life of the Boiler are thereby greatly increased.

"It has long been acknowledged that the best Water Heater is that which does not allow exhaust steam from the Engine to come into direct contact with the Feed Water, but that the steam should pass through pipes over or around which the Feed Water is made to pass."—*Vide Engineer*, May 21, 1875.

No.	SIZE OF HEATERS.		Horse-power.	Price at Works.
	Diameter.	Height.		
	ft. in.	ft. in.		
1	1 0	5 6	For 6 Horse-power.	£ 12
2	1 3	5 6	" 10 "	15
3	1 5	5 6	" 14 "	18
4	1 7	5 6	" 18 "	21
5	1 10	5 6	" 24 "	26
6	2 0	5 6	" 30 "	32

Duplicate Tubes which fit any size Heater, 5s. each.

Ring Joints for Tubes, 5s. per dozen.

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IRON-WORKS, HALSTEAD, ESSEX.

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ARCHIBALD SMITH AND CO.'S  
MULTITUBULAR "ECLIPSE" WATER HEATER.

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GREAT SAVING OF FUEL.

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Adapted for any kind of Engine or Boiler.

No extra Pump required.

When no provision is made for supplying HOT instead of COLD water to a steam Boiler all substances which are held in suspension in the water, such as LIME, CHALK, &c., pass into the Boiler, and being deposited on the iron plates, form an INCRUSTATION, and not only prevent the rapid production of steam, whereby the economy of the Boiler is greatly reduced, but is frequently the cause of disastrous explosions.

The effect of the Feed-Water Heater, in addition to its great heating properties, is to INTERCEPT and PRECIPITATE all such injurious substances before they reach the Boiler. It is therefore of paramount importance that the internal arrangement of a Feed-Water Heater should be of the simplest kind, without at the same time interfering with efficiency.

The "ECLIPSE" Water Heater possesses all these properties.

The Tubes through which the waste steam from the Engine passes, are so arranged that by bolting down the cover of the Heater every joint is at the same time perfectly made, and by the removal of the cover every tube can be taken out for examination or cleaning, and any labourer can take the whole apart, clean, and replace the tubes in perfect order, without the possibility of a mistake, in an incredibly short space of time.

The Heater is placed anywhere between the Engine and Boiler, and immediately the waste steam is turned through it, a great and permanent REDUCTION in the consumption of FUEL is the result.

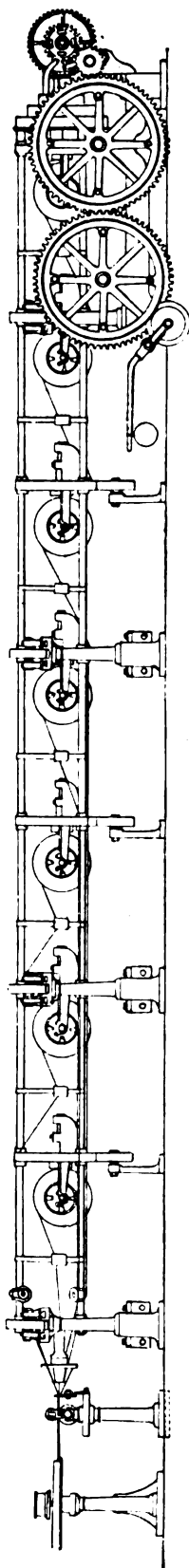
The Tubes in every "ECLIPSE" Heater are interchangeable, those of one size Heater can be used for another without alteration or fitting, therefore for EXPORTATION and all other purposes the "ECLIPSE" Feed-Water Heater is invaluable.

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IRON-WORKS, HALSTEAD, ESSEX.

## IMPROVED PATENT WIRE ROPE AND STRAND MACHINE.



ARCHD. SMITH AND CO., PATENTEES AND SOLE MANUFACTURERS.

## WIRE ROPE AND CABLE MACHINES.

BY ROYAL



LETTERS PATENT.

ARCHD. SMITH AND CO.'S IMPROVED PATENT  
WIRE ROPE AND STRAND MACHINES.

No.	Number of Bobbins in Machine.	Approximate Weight of Wire on each Bobbin.	Range of Wire the Machine is adapted for.	Size Rope Machine will make.	Speed of Machine per Minute.	Length of Machine.	Width.	Height.	Horse-power required.	Price.	Extra if on Iron Girder Foundations.
		lb.	B. W. G.	Circum- ference.	Revs.	ft.	ft.	ft.		£	£
1	7	28	30 to 20	...	450	17	2	2	$\frac{1}{2}$	95	..
2	7	40	24 ,, 18	..	400	19	2	2	$\frac{1}{2}$	115	..
3	7	1 $\frac{1}{2}$ cwt.	20 ,, 12	1 to 2 $\frac{1}{2}$ in. in.	350	26	3	3	2	150	30
4	7	2	18 ,, 8	1 ,, 2 $\frac{1}{2}$	300	33	3 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$	200	40
5	7	3 $\frac{1}{2}$	14 ,, 6	1 ,, 3 $\frac{1}{2}$	200	40	4	4	3	300	45
6	7	11	8 ,, 0	2 ,, 4 $\frac{1}{2}$	150	50	5	5	4	450	70

For Machines to carry 9 Bobbins add 25 per cent. to above prices.

" " 12 " 50 " "

These Patent Machines produce three times the quantity of work made by any other Machine or means, in the same time, of a superior quality, and for one-half the cost for power ; less wear and tear of Machinery ; less danger to those employed ; less injury to, and without any twist in the individual wires.

Since their introduction they have been adopted by all the principal Wire-Rope Makers in England and Abroad.

*Price includes* :—Packing and delivery into Railway Truck at Works ; spare set of Bobbins to each Machine ; set of Change Wheels ; Measuring Indicator, and self-acting Coiling-up Reel.

ARCHIBALD SMITH AND CO.,

69, PRINCES STREET, LEICESTER SQUARE, LONDON ;

AND

THE COLNE VALLEY IRON-WORKS, HALSTEAD, ESSEX.